

FUNCTIONAL GROUPS

Name _____

Classify each of the organic compounds below as an alcohol, carboxylic acid, aldehyde, ketone, ether or ester, and draw its structural formula.

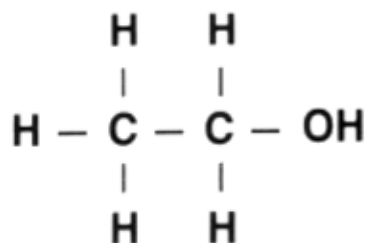
1. CH_3COOH	6. $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$
2. CH_3COCH_3	7. $\text{CH}_3\text{CH}_2\text{COOH}$
3. $\text{CH}_3\text{CH}_2\text{OH}$	8. $\text{CH}_3\text{CH}_2\text{COOCH}_3$
4. $\text{CH}_3\text{CH}_2\text{OCH}_3$	9. $\text{CH}_3\text{CH}_2\text{COCH}_3$
5. $\text{CH}_3\text{CH}_2\text{CHO}$	10. CH_3OCH_3

NAMING OTHER ORGANIC COMPOUNDS

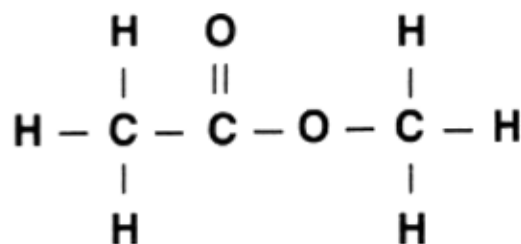
Name _____

Name the compounds below.

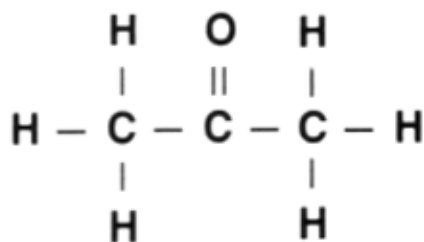
1.



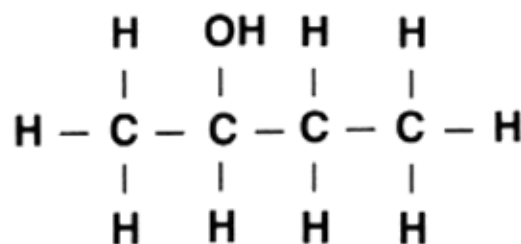
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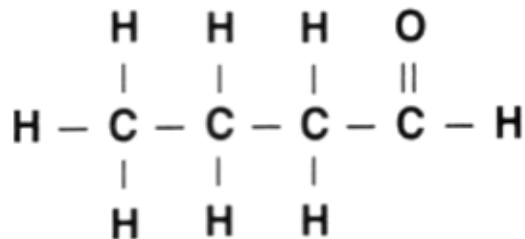
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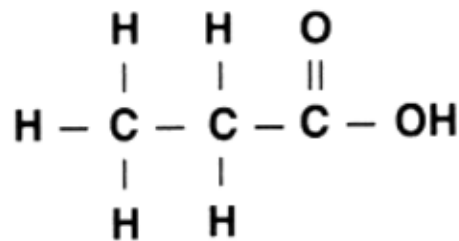
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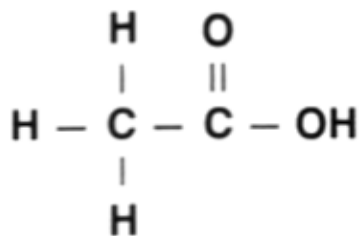
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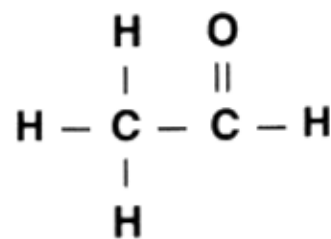
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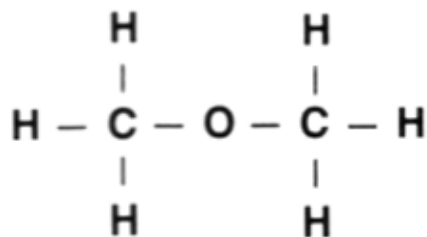
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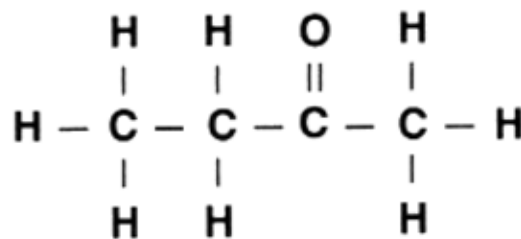
9.



5.



10.

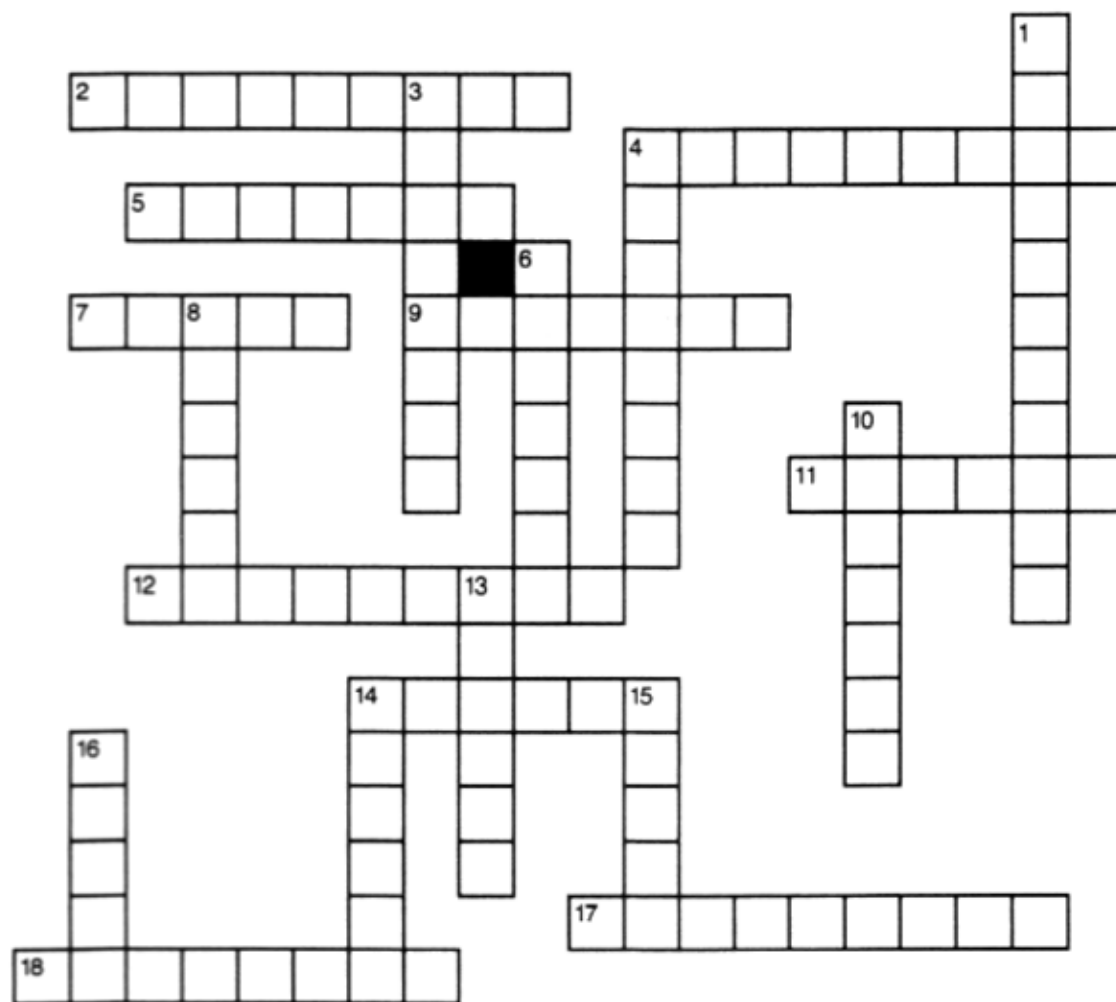


STRUCTURES OF OTHER ORGANIC COMPOUNDS

Name _____

Draw the structures of the compounds below.

1. butanoic acid	6. methylmethanoate (methyl formate)
2. methanal	7. 3-pentanol
3. methanol	8. methanoic acid (formic acid)
4. butanone	9. propanal
5. diethyl ether	10. 2-pentanone



Across

2. Hydrocarbon containing only single bonds
4. Contains two double bonds
5. Alcohol in which the hydroxyl group is attached to an end carbon
7. An alkane minus one hydrogen. It attaches to another carbon chain.
9. Compounds with the same molecular formula, but different structural formulas
11. A dihydroxy alcohol
12. Alcohol in which the hydroxyl is attached to a carbon attached to two other carbons
14. Open chain hydrocarbon containing one double bond
17. Organic compounds containing the benzene ring structure
18. Describes a hydrocarbon with a side chain of carbon atoms

Down

1. An alcohol with only one hydroxyl group in its structure
3. Alcohol in which the hydroxyl is attached to a carbon attached to three other carbons
4. General formula $R-CHO$
6. High molecular mass compound consisting of repeating units called monomers
8. General formula $R-CO-R'$
10. Contains one or more $-OH$ groups
13. Saturated open chain hydrocarbon
14. Open chain hydrocarbon containing only one triple bond
15. Produced by the reaction of an alcohol and an acid
16. General formula $R-O-R'$

FUNCTIONAL GROUPS

Name _____

Classify each of the organic compounds below as an alcohol, carboxylic acid, aldehyde, ketone, ether or ester, and draw its structural formula.

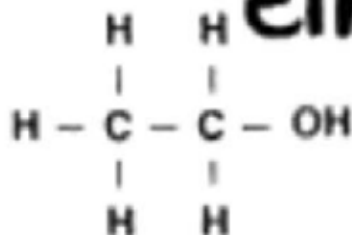
<p>1. CH_3COOH carboxylic acid</p> $\begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{OH} \\ \\ \text{H} \end{array}$	<p>6. $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$ alcohol</p> $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \quad \\ \text{H} \quad \text{OH} \quad \text{H} \end{array}$
<p>2. CH_3COCH_3 Ketone</p> $\begin{array}{c} \text{H} \quad \text{O} \quad \text{H} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$	<p>7. $\text{CH}_3\text{CH}_2\text{COOH}$ carboxylic acid</p> $\begin{array}{c} \text{H} \quad \text{H} \quad \text{O} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{OH} \\ \quad \\ \text{H} \quad \text{H} \end{array}$
<p>3. $\text{CH}_3\text{CH}_2\text{OH}$ alcohol</p> $\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{O}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$	<p>8. $\text{CH}_3\text{CH}_2\text{COOCH}_3$ ester</p> $\begin{array}{c} \text{H} \quad \text{H} \quad \text{O} \quad \text{H} \\ \quad \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{O}-\text{C}-\text{H} \\ \quad \quad \quad \\ \text{H} \quad \text{H} \quad \quad \text{H} \end{array}$
<p>4. $\text{CH}_3\text{CH}_2\text{OCH}_3$ ether</p> $\begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{O}-\text{C}-\text{H} \\ \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$	<p>9. $\text{CH}_3\text{CH}_2\text{COCH}_3$ Ketone</p> $\begin{array}{c} \text{H} \quad \text{H} \quad \text{O} \quad \text{H} \\ \quad \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \quad \quad \\ \text{H} \quad \text{H} \quad \quad \text{H} \end{array}$
<p>5. $\text{CH}_3\text{CH}_2\text{CHO}$ aldehyde</p> $\begin{array}{c} \text{H} \quad \text{H} \quad \text{O} \\ \quad \quad \\ \text{H}-\text{C}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$	<p>10. CH_3OCH_3 ether</p> $\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}-\text{C}-\text{O}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$

NAMING OTHER ORGANIC COMPOUNDS

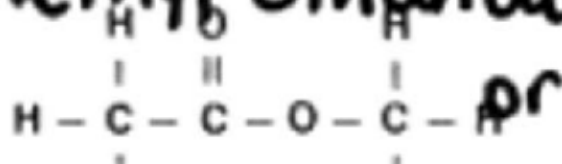
Name _____

Name the compounds below.

1. **ethanol**

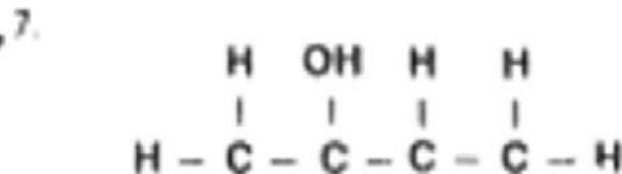
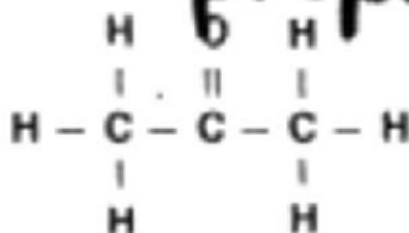


6. **methyl ethanoate**

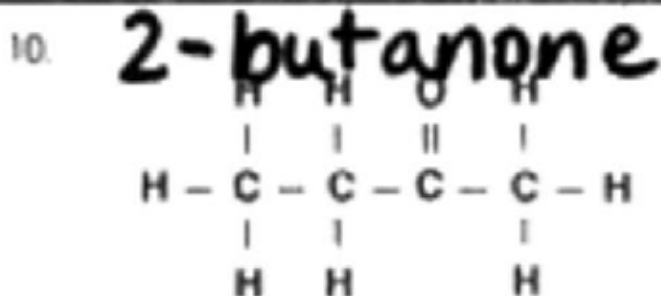
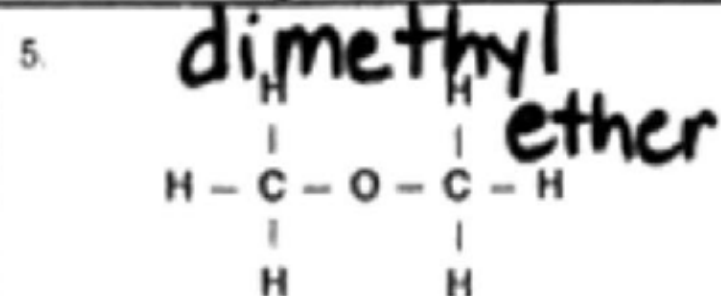
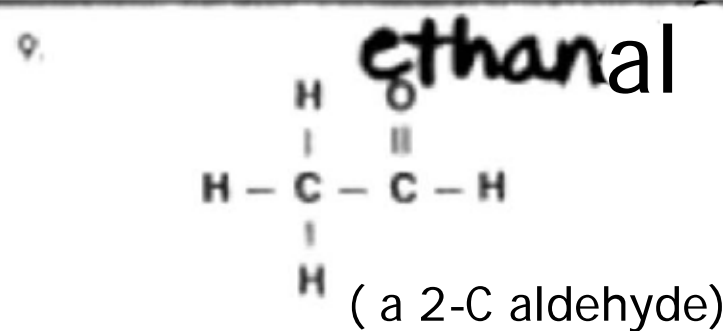
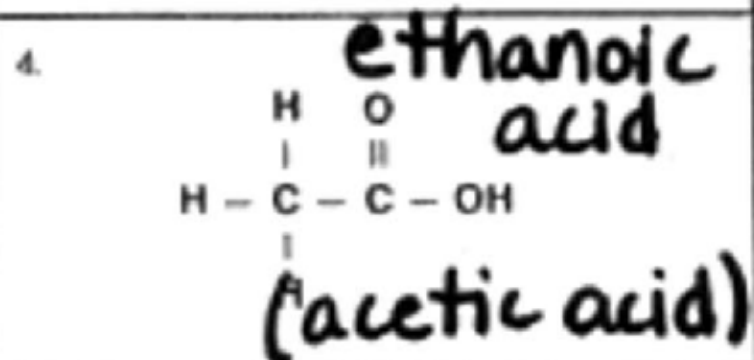
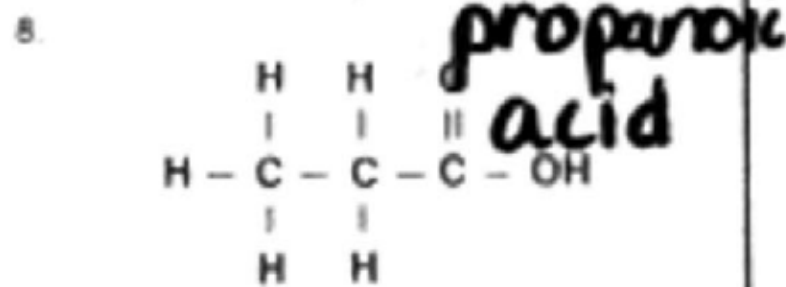
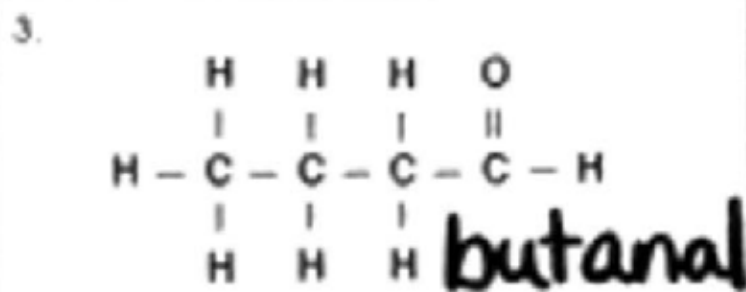


or
methyl acetate

2. **propanone**



2-butanol

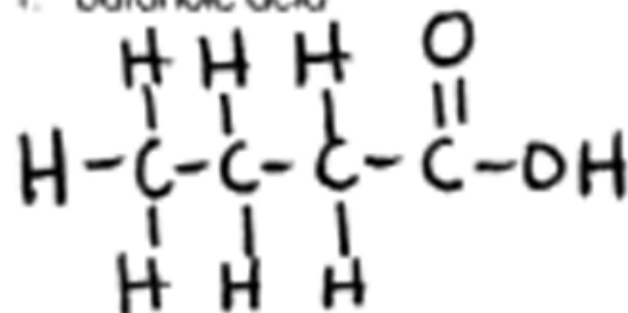


STRUCTURES OF OTHER ORGANIC COMPOUNDS

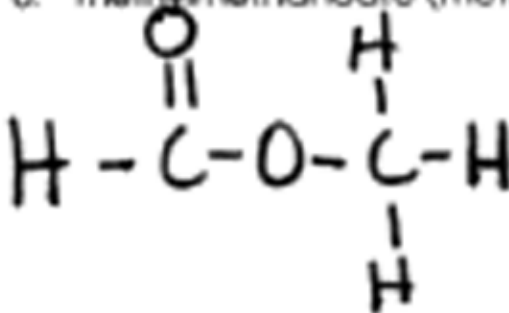
Name _____

Draw the structures of the compounds below.

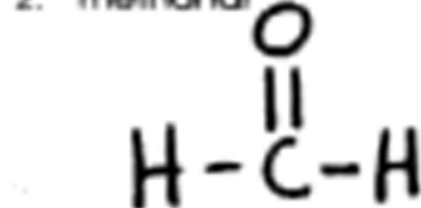
1. butanoic acid



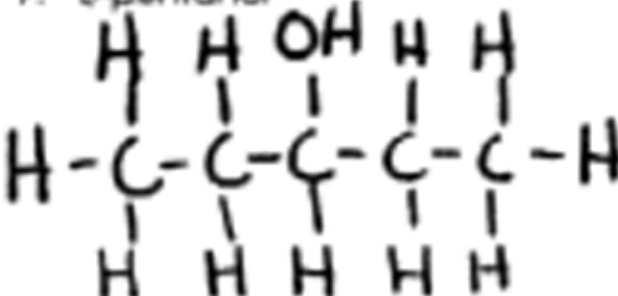
6. methylmethanoate (methyl formate)



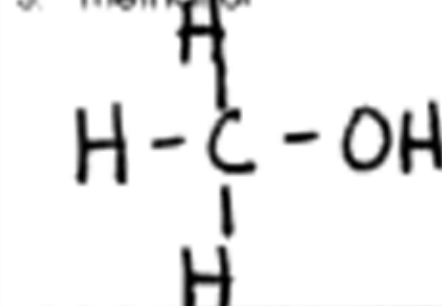
2. methanal



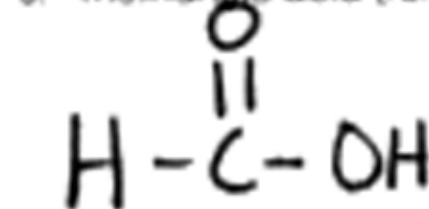
7. 3-pentanol



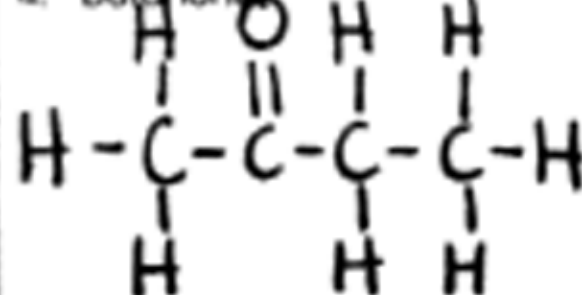
3. methanol



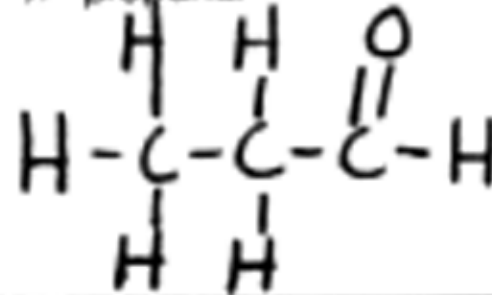
8. methanoic acid (formic acid)



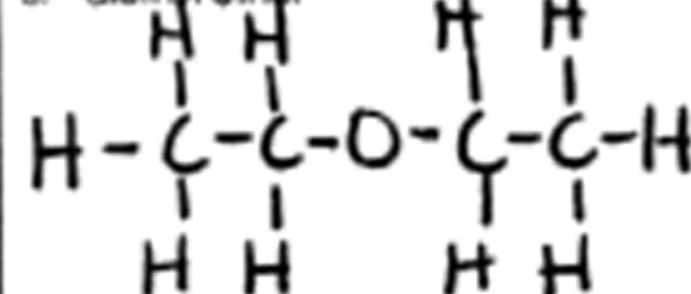
4. butanone



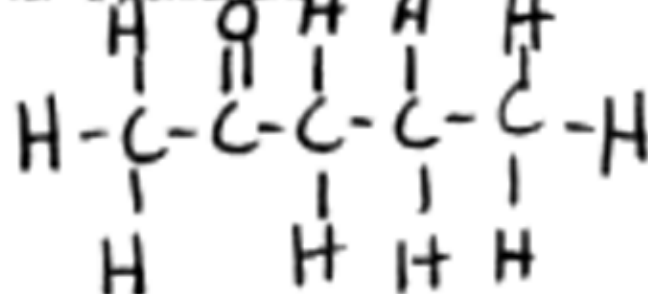
9. propanal



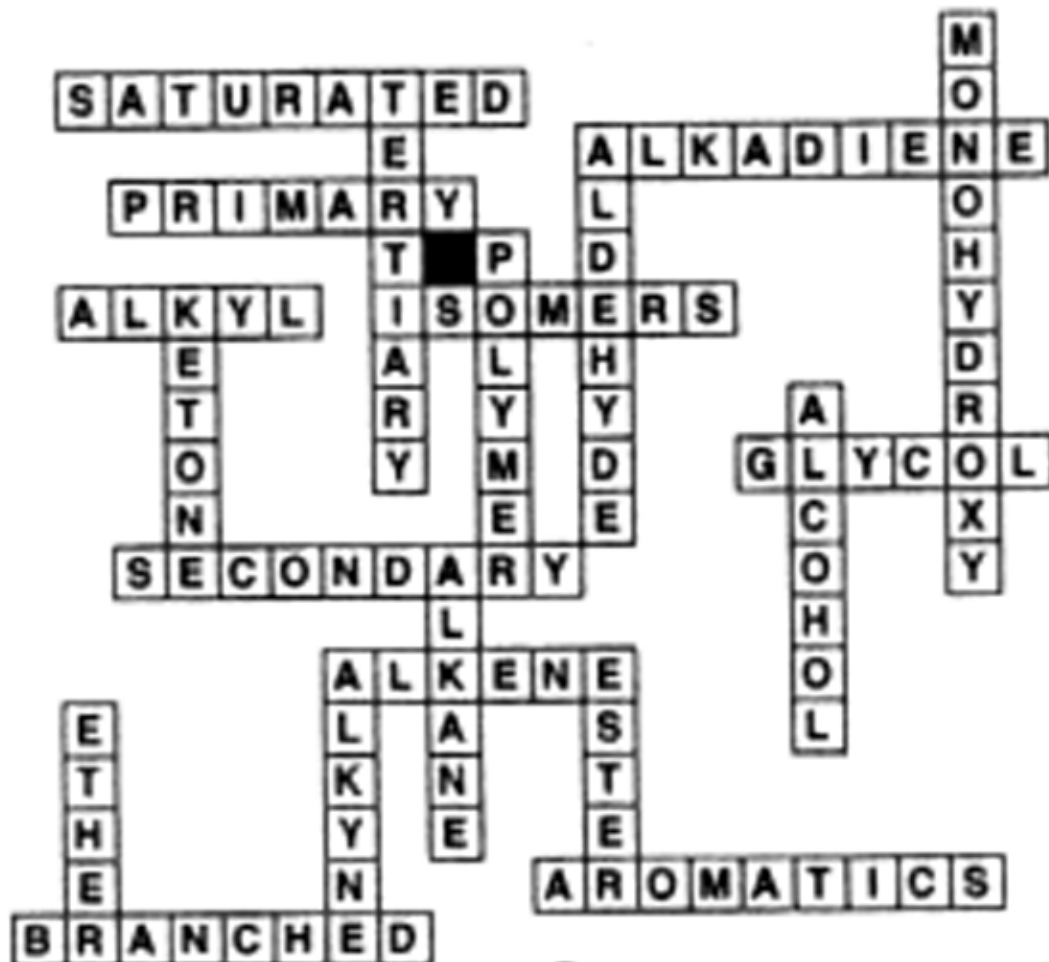
5. diethyl ether



10. 2-pentanone



Name _____



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8. General formula $R-CO-R'$
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13. Saturated open chain hydrocarbon
14. Open chain hydrocarbon containing only one triple bond
15. Produced by the reaction of an alcohol and an acid
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